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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,700	01/19/2005	Ingrid Maja Guenther	TS8579US	2160
7590 Jennifer D Adamson Shell Oil Company Intellectual Property Dept. Po Box 2463 Houston, TX 77252-2463		03/24/2009		
EXAMINER				
SEIFU, LESSANWORK T				
ART UNIT		PAPER NUMBER		
1797				
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03/24/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/521,700

**Applicant(s)**

GUENTHER ET AL.

**Examiner**

Lessanework Seifu

**Art Unit**

1797

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 12-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

### DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 13, 2009 has been entered.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 12-25, 29, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants' admitted prior art (APA) (see specification: page 1, lines

4-18 and page 3, lines 2-25) in view of Chu et al. (US 4,471,145), Cosyns et al. (US 4,133,841) and O'Rear (US 6,392,108).

Regarding claims 12-25, 29, and 30, the APA discloses that a process to generate heat comprising the steps of: supplying a liquid fuel to an evaporation surface of a burner, wherein the evaporation surface comprises a wick; evaporating the fuel into space surrounding the evaporation surface; and combusting the evaporated fuel with oxygen-containing gas to generate heat is known in the art (see specification: page 1, lines 4-18 and page 3, lines 2-12). Applicants' claimed invention differs from the prior art in that the instantly claimed process uses a liquid fuel comprising a Fischer-Tropsch derived fuel product as the liquid fuel supply. However, as evidenced by the references Chu et al., Cosyns et al., and O'Rear, the use of Fischer-Tropsch derived fuel as a liquid fuel to generate heat is well known in the art.

Chu et al. disclose that liquid fuel comprising Fischer-Tropsch derived fuel can be used as heating oil (see col. 1, lines 48-61).

Cosyns et al. teach that a liquid fuel derived from Fischer-Tropsch syntheses process has the same use as oil (from oil fields, implied) and its derivatives (see col. 1, lines 5-45). Cosyns et al. further disclose Fischer-Tropsch derived products having density between 0.695 and 0.862 g/cm<sup>3</sup> at 15° C, and products comprising kerosene cuts (200°C - 250°C) and gas oil cuts (250°C - 360° C) (see col. 14, lines 45-60 and col. 15, lines 50-66).

O'Rear discloses that Fischer-Tropsch derived fuels have very low levels of sulfur and nitrogen, have excellent burning properties, and can be used as an

environmentally friendly "green fuel" (see col. 6, lines 54-67 and col. 13, lines 18-20). O'Rear further discloses that Fischer-Tropsch derived fuels have excellent burning properties and have paraffin components > 70%, less than 1% ppm by weight of sulfur and generally contain no aromatic compounds (see col. 6, lines 54-67). O'Rear further discloses that the products of Fischer-Tropsch process include hydrocarbons boiling bellow 700° F (371° C) (see col. 11, lines 1-25). O'Rear further teaches that additives can be included to Fischer-Tropsch derived products (see col. 10, lines 46-55).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used a liquid fuel comprising any amount of a Fischer-Tropsch derived fuel product, meeting a specification of a heating oil, according to the teachings of O'Rear or Chu et al. or Cosyns et al. as the liquid fuel supply in the conventional process of generating heat disclosed in the APA because, as evidenced by the reference O'Rear, Fischer-Tropsch derived fuels have environmentally beneficial effects and are recognized as an environmentally friendly "green fuel" (see col. 6, lines 54-67).

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to reasonably expect that a liquid fuel comprising Fischer-Tropsch derived fuel product supplied to any liquid fuel burners known in that art, including to an evaporator surface of the burners disclosed in the APA, would produce: a comparable or reduced unburned hydrocarbon content; comparable or reduced carbon monoxide emissions; a comparable or reduced Smoke Number; and a comparable or increased efficiency when the liquid fuel comprising F-T derived fuel is

combusted - compared to combusting a petroleum derived kerosene fuel under the same conditions using the same burner because, as evidenced by the reference, O'Rear, Fisher-Tropsch derived fuels have superior burning characteristics than petroleum derived fuel (see col. 6, lines 54-67 and col. 13, lines 18-20).

4. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants' admitted prior art (APA) (see specification: page 1, lines 4-18 and page 3, lines 2-25) in view of Chu et al. (US 4,471,145), Cosyns et al. (US 4,133,841) and O'Rear (US 6,392,108) as applied to claim 12 above, and further in view of Brown et al. (US 3,607,074).

Regarding claim 26, the claim depends from claim 12 such that the reasoning applied to claim 12 above is applied herein for the dependent portion of the claim. None of the references mentioned above teach or suggest adding an odor marker to a liquid fuel supply. Brown et al. discloses an odor marker for liquid fuels (see col. 1, lines 22-40). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the liquid fuel of Chu et al. or O'Rear or Cosyns et al. to include an odor marker according to the teaching of Brown et al. because Brown et al. teach that an odor marker is a reliable and inexpensive method for identifying liquid fuels.

5. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants' admitted prior art (APA) (see specification: page 1, lines 4-18 and page 3, lines 2-25) in view of Chu et al. (US 4,471,145), Cosyns et al. (US 4,133,841) and

O'Rear (US 6,392,108) as applied to claim 24 above, and further in view of Thrasher et al. (US 4,932,979).

Regarding claim 28, the claim depends from claim 24 such that the reasoning applied to claim 24 above is applied herein for the dependent portion of the claim. None of the references mentioned above teach or suggest adding a color marker to a liquid fuel supply. Thrasher et al. disclose a liquid fuel comprising a color marker for the purpose of producing a colorant flame (see Abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to add a color marker to the liquid fuel of Chu et al. or O'Rear or Cosyns et al. for the purpose of detecting the flame produced when the liquid fuel of Chu et al. or O'Rear or Cosyns et al. are combusted because, as evidenced by the reference Thrasher et al., it is advantageous to color a colorless flame for identification purposes and safety (see col. 1, lines 40-60).

6. Claims 12 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wuest et al. (US 6,540,505) in view of Chu et al. (US 4,471,145), Cosyns et al. (US 4,133,841) and O'Rear (US 6,392,108).

Wuest et al. disclose a liquid burner for use in a process to generate heat (see col. 4, line 32 to col. 5, line 24). Wuest et al. disclose that the burner in accordance to their invention is particularly suitable for burning extra light heating oil (see col. 2, lines 18-25). The reference Wuest et al. does not require that liquid fuel contain a metal-based combustion improvers. Thus, the liquid fuel for use in the process of Wuest et al. can be assumed to have no metal-based combustion improvers. Wuest et al. further

teach that the process to generate heat comprises: supplying a liquid fuel to an evaporation surface of the burner without atomizing the fuel into small droplets under pressure (see col. 6, lines 27-31); evaporating the fuel into space surrounding the evaporation surface; combusting the evaporated fuel with oxygen-containing gas to generate heat (see col. 4, line 48 to col. 5, line 18); and detecting the flame using an ionization measuring device (see col. 3, lines 15-25). Wuest et al. are, however, silent with respect to the liquid fuel or the extra light heating oil comprising a Fischer-Tropsch derived fuel product. However, as evidenced by the references Chu et al., Cosyns et al., and O'Rear, the use of Fischer-Tropsch derived fuel as a liquid fuel to generate heat is well known in the art.

Chu et al. disclose that liquid fuel comprising Fischer-Tropsch derived fuel can be used as heating oil (see col. 1, lines 48-61).

Cosyns et al. teach that a liquid fuel derived from Fischer-Tropsch syntheses process has the same use as oil (from oil fields, implied) and its derivatives (see col. 1, lines 5-45). Cosyns et al. further disclose Fischer-Tropsch derived products having density between 0.695 and 0.862 g/cm<sup>3</sup> at 15° C, and products comprising kerosene cuts (200°C - 250°C) and gas oil cuts (250°C - 360° C) (see col. 14, lines 45-60 and col. 15, lines 50-66).

O'Rear discloses that Fischer-Tropsch derived fuels have very low levels of sulfur and nitrogen, have excellent burning properties, and can be used as an environmentally friendly "green fuel" (see col. 6, lines 54-67 and col. 13, lines 18-20). O'Rear further discloses that Fischer-Tropsch derived fuels have excellent burning



properties and have paraffin components > 70%, less than 1% ppm by weight of sulfur and generally contain no aromatic compounds (see col. 6, lines 54-67). O'Rear further discloses that the products of Fischer-Tropsch process include hydrocarbons boiling bellow 700° F (371° C) (see col. 11, lines 1-25). O'Rear further teaches that additives can be included to Fischer-Tropsch derived products (see col. 10, lines 46-55).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used a liquid fuel comprising any amount of a Fischer-Tropsch derived fuel product, meeting a specification of a heating oil or an extra light heating oil, according to the teachings of O'Rear or Chu et al. or Cosyns et al. as the liquid fuel supply for the liquid burner of Wuest et al. because, as evidenced by the reference O'Rear, Fischer-Tropsch derived fuels have environmentally beneficial effects and are recognized as an environmentally friendly "green fuel" (see col. 6, lines 54-67).

#### ***Response to Arguments***

4. Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lessanework Seifu whose telephone number is (571)270-3153. The examiner can normally be reached on Mon-Thr 7:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/L. S./  
Examiner, Art Unit 1797

/Walter D. Griffin/  
Supervisory Patent Examiner, Art Unit 1797